The Department of Defense Awards Program for Excellence in Performance-Based Logistics

Warfighter-based Capabilities and Outcomes

When the M41 Improved Target Acquisition System (ITAS) successfully achieved first unit equipped (FUE) status in 1998, the Close Combat Weapon Systems (CCWS) Project Management Office (PMO) and Raytheon were fully prepared to support this system with combination of an organic and contractor logistics support (CLS) Performance Based Logistics (PBL) contract (Figure 1). This innovative solution uses existing infrastructure to maximize Army depot support of common items used by both ITAS and the M220 Ground TOW 2 system. Success of this CLS program has led to the award of a new ten-year (base year with nine options), fixed price PBL contract in effect through 2016. It entrusts Raytheon with full support responsibilities for the ITAS components designed using performance specifications: the fire control subsystem, the target acquisition subsystem, the lithium battery box, and the traversing unit. To achieve maximum economies of scale by supporting near identical systems, the Army included the modified ITAS (MITAS) found on the anti-tank guided missile (ATGM) system, fielded to Stryker Brigades, in the ITAS PBL contract. This fixed price, performance based contract features another innovative feature; it incentivizes the contractor for achieving system readiness higher than the single quantifiable performance metric of 90 percent operational readiness (Figure 2). Raytheon has earned the maximum incentive award each quarter through delivery of 99+ percent system readiness (for the ITAS unique items) since the effort was initially awarded in 2000. The USMC plans to participate in the Army ITAS PBL concept by adding its fleet of 600 plus launchers starting in 2008. This will make ITAS PBL a joint service PBL contract.

Mission Success – Combat and Garrison: The ITAS PBL concept has been successful in supporting 782 ITAS in 71 different units during the last ten years including five years of combat operations in both Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). In all operational scenarios ITAS PBL has provided exceptionally high system operational readiness for the Warfighter. Although the PBL concept allows system support without Raytheon field service representatives (FSRs), no commander has ever chosen to deploy without his Raytheon FSRs. This fact, and the outstanding performance by these FSRs, has proven that contractors on the battlefield is a viable solution to supporting modern ground weapon systems, even those fielded to rapid, no-notice deploying infantry units like the 82d Airborne Division. ITAS FSRs have been deployed since the start of combat operations with six FSRs currently deployed in forward operating bases in OEF/OIF (Figure 3.) alongside organic support units.

Materiel Availability: Raytheon's performance in providing system availability has exceeded all requirements and expectations. PBL managed hardware has achieved an average of 99.7 percent operational readiness **over the life of the three contracts** against a requirement of 90 percent. This operational readiness (OR) rate was maintained even during OIF/OEF. System design and the support concept resulted in a 200% improvement in mean-time-between-operational-failures and a 400% improvement in mean-time-to-repair. Over 67 percent of the Warfighter's work orders that require depot level support are completed and closed on the same day they are opened. The CCWS/Raytheon PBL team's commitment to the Warfighter is proven daily through continued support of ITAS and MITAS across all operational scenarios – combat or training, garrison or deployed.

Ownership Cost Management: Since FUE, CCWS PMO, working jointly with Raytheon, developed three firm, fixed price contracts that essentially eliminated cost growth in Operation & Maintenance (O&M) funding for ITAS support while supporting the entire operational spectrum for ITAS units. The cost avoidance advantage predicted for ITAS PBL over the traditional organic support was over $300M based on a 1998 cost analysis. This cost avoidance comes from both a system design approach that enhances reliability and the PBL sustainment concept. The innovative nature of the contract provides funding flexibility to accommodate deviations in the program. Funding impacts from changes in the fielding schedule, additional customers (USMC and FMS), operational scenarios/optempo fluctuations (combat, training, or homeland security by Active Component or National Guard), and major hardware/software upgrades have all been successfully accommodated under a fixed price schedule using system months (SM). One SM is equal to one fielded system per month. The SM price actually decreases for the first few years of the ten year contract due to economies of scale as the fleet size increases and sustainment buys are combined with procurement for production. The PM is responsible for the budgeting, contracting, and funding of depot level spares resulting in the free issue of replenishment spare/repair parts to the Warfighter. This free issue is a big plus in the eyes of the Warfighter.

Sustainment of Warfighter Capabilities

Public-private Partnering: While not an official Public-Private Partnership, the Product Support Integration enterprise between Raytheon and the CCWS project office delivers a highly efficient support mechanism. The ITAS product support concept, combining organic capabilities with Raytheon provided PBL has been incredibly effective. CCWS PMO has successfully orchestrated government and contractor entities

whose collective synergy has established and maintained the support infrastructure that includes maintenance and supply support from Raytheon; low-cost parts from the Defense Logistics Agency; vehicle specifications from the Tank-automotive and Armaments Command; and training device support from PEO Simulation, Training, and Instrumentation. Letterkenny and Anniston Army Depots bring maintenance capabilities to this enterprise and the Army's Aviation and Missile Life Cycle Management Command (AMCOM) continues to apply its vast knowledge of supply support methods to the Soldier-Focused Logistics relationship. Raytheon has developed a strong bond with the Warfighters through its FSRs. An exceptional support effort has become the norm, in large part because the FSRs claim ownership for "their" units. AMCOM Logistics Assistance Representatives are invaluable in assisting both the unit and Raytheon's FSRs in resolving issues from operational necessities and restrictions.

Systems Engineering Approach: The ITAS team employs a broad based system engineering process for addressing reliability, maintainability, availability, operational, and safety concerns. Maintenance actions and Warfighter feed-back are analyzed and discussed for possible engineering or training solutions at monthly program reviews. The Top-Ten Failure List is reported and monitored monthly by both the engineering and the logistics staffs. Problems are evaluated in a failure reporting and corrective action system (FRACAS) to both improve system reliability and determine if any corrective changes are required in system production. A separate industrial engineering contract allows investigations for product deficiencies, obsolescence, and interoperability that may impact either production or sustainment.

Footprint Reduction: System design and the PBL concept drastically reduced the logistics footprint from 32 components for the M220 TOW to only 6 components for

ITAS (Figure 4). Built-in-test/built-in-test equipment (BIT/BITE) has eliminated field level support equipment. The soldier maintainer is able to troubleshoot faults using the built-in maintenance menu and remove/replace line replaceable units (LRUs) using his repair parts. If time and operational conditions permit, the soldier may remove/replace shop replaceable units (SRUs) or evacuate the item to Raytheon. Raytheon's quick turn times for replacing unserviceable LRU/SRU greatly reduces the size of the unit's spares inventory with significant cost saving for the Army.

Obsolescence Management: The ITAS team has an outstanding obsolescence management program supporting the PBL effort. The team continuously monitors the Government-Industry Data Exchange Program while using Total Parts Plus and Part Miner to monitor industry activity and solicit obsolescence information from industry and vendors. This effort has resolved system obsolescence issues in both the production and sustainment effort. Currently, the newest systems fielded reflect two major hardware changes as part of on-going obsolescence activities.

Reliability, Maintainability and Supportability Improvements: Since system reliability and maintainability (R&M) drives logistics demand, the ITAS PBL effort includes continuous collection, analysis, and feedback of key R&M parameters. R&M data is collected and reported by the FSRs and Warfighters. As a result, the ITAS PBL team has near real-time insight into the operational tempo, failure, and repair history, failure trends, and hardware configuration of fielded launchers. This data is used by the team to identify and prioritize corrective actions, reduce maintenance and supply demands, and generally enhance support to the Warfighter. To date, reliability assessments using PBL data show that ITAS launchers meet or exceed the Warfighter's reliability requirements.

Figure 1. The ITAS PBL Support Concept

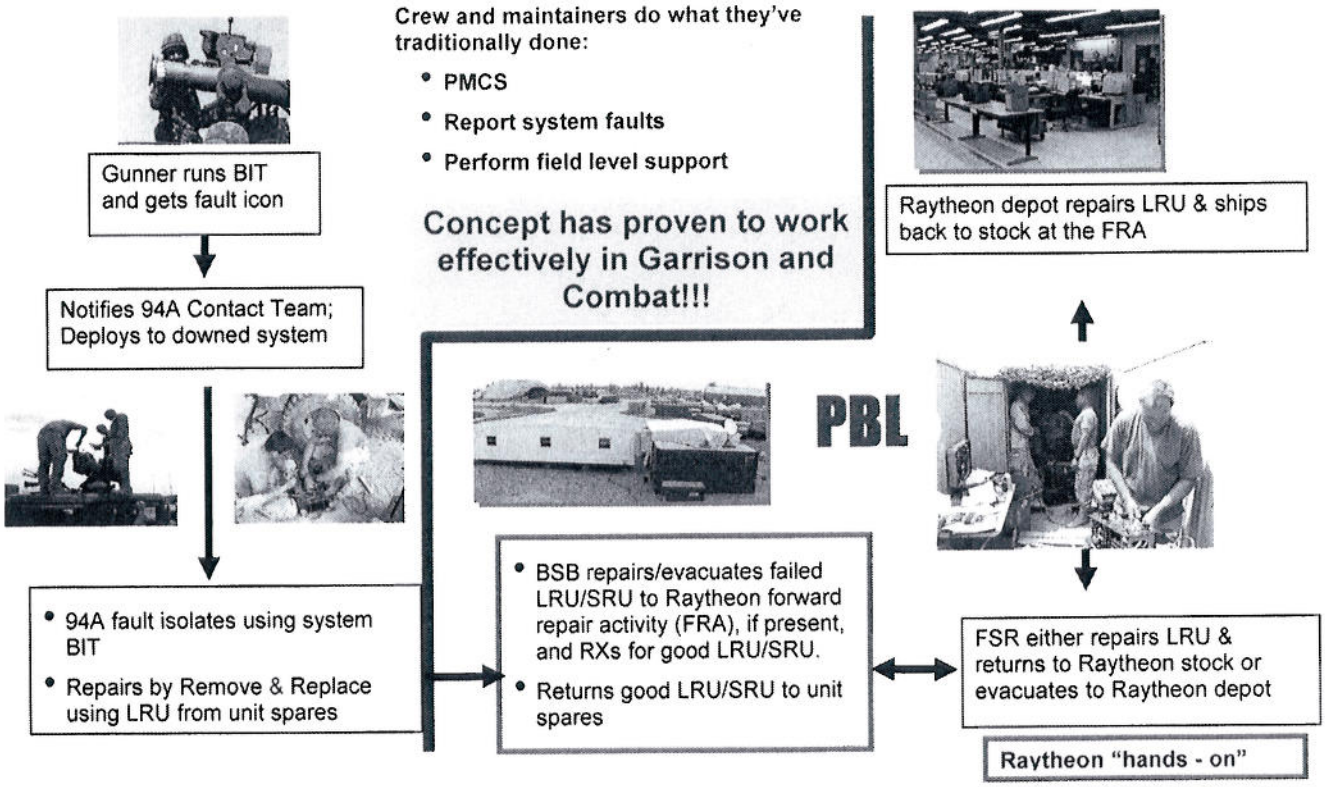


Figure 2. ITAS PBL Contract Incentive Plan

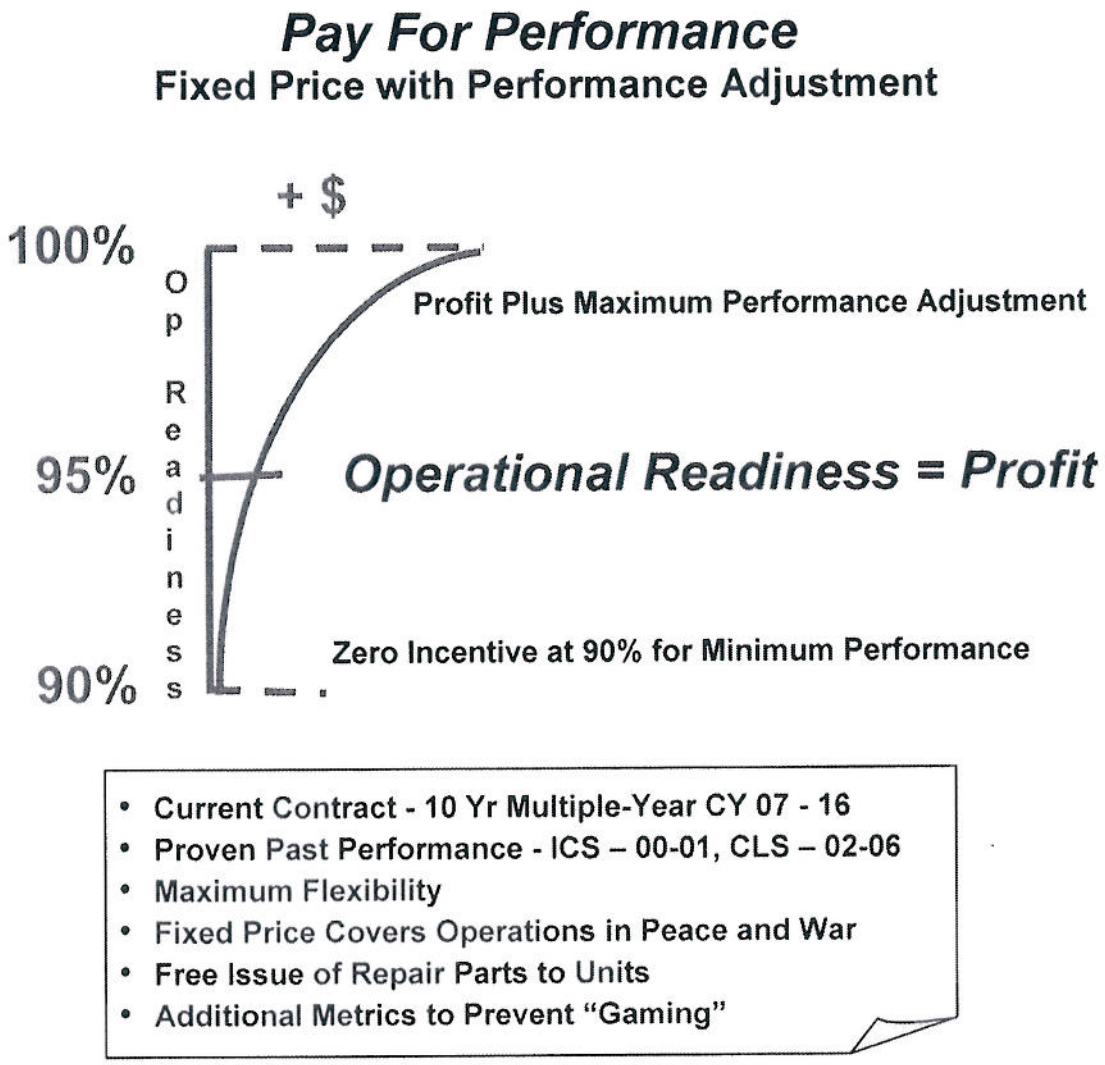


Figure 3. Deployed Locations of ITAS FSRs

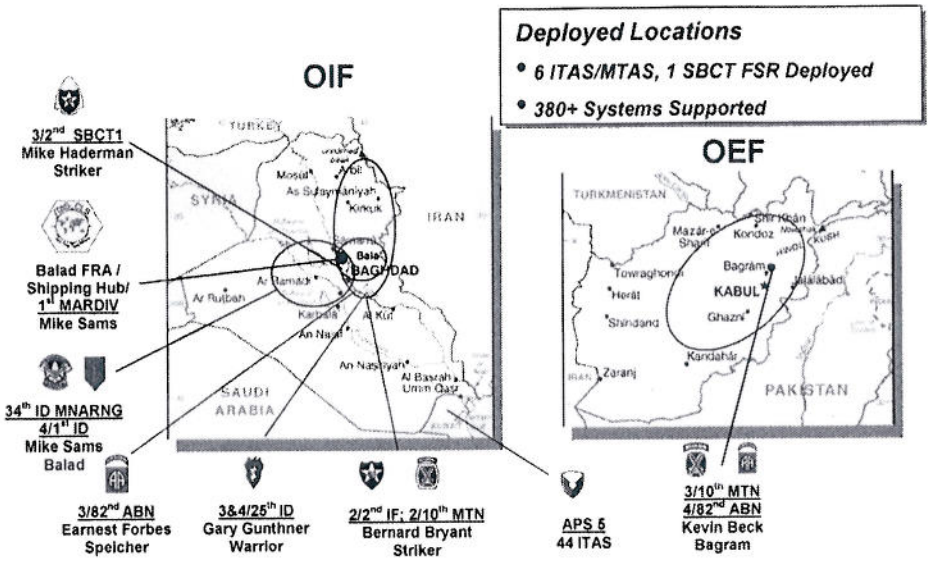
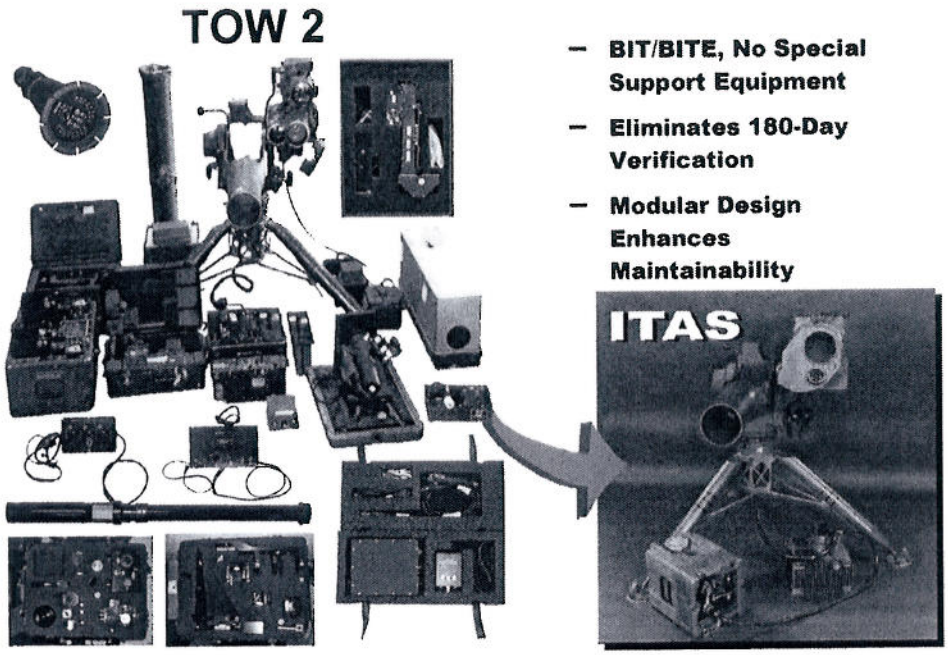


Figure 4. Reduced Support Footprint for Warfighter



The Department of Defense Awards Program
For
Excellence in Performance Based Logistics (PBL)
Section 4
Achievements

Beginning at first unit equipped in September 1998, the Close Combat Weapon Systems Project Management Office and Raytheon team has supported the Improved Target Acquisition System (ITAS) and Modified ITAS (MITAS) fleet with a combined organic Army and Raytheon provided Contractor Logistics Support (CLS) concept. This concept transitioned from an interim concept to become the first CLS contract ever approved by the Army for lifecycle support of a ground based infantry system. This performance based logistics (PBL) contract had to achieve maximum flexibility to support the ITAS Warfighter – rapid deploying light infantry units – across the entire operational spectrum. Costs savings predictions for this PBL effort were expected to be $300 million over organic support based on a 1998 cost analysis for the lifecycle of the ITAS fleet. To date, Raytheon has delivered performance exceeding all contract requirements including a 99+ percent average operational readiness (OR) rate over the life of three PBL contracts for the components supported by CLS PBL. In the last 66 months, including support to ITAS fielded units in combat operations, the OR rate never dropped lower than 94 percent against the Army requirement of 90 percent. The ITAS field service representatives have demonstrated that contractors on the battlefield is a viable option for support of weapon systems to the Army's quick deploying, light infantry Warfighter. The ITAS PBL team's commitment to the Warfighter, to ensure ITAS and MITAS units meet or exceed required readiness rates, has been met by this responsive and effective PBL contract.